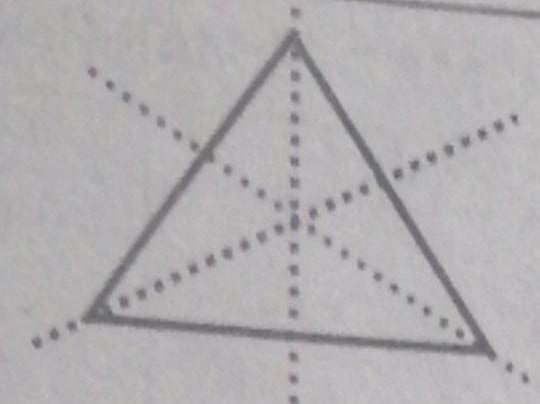
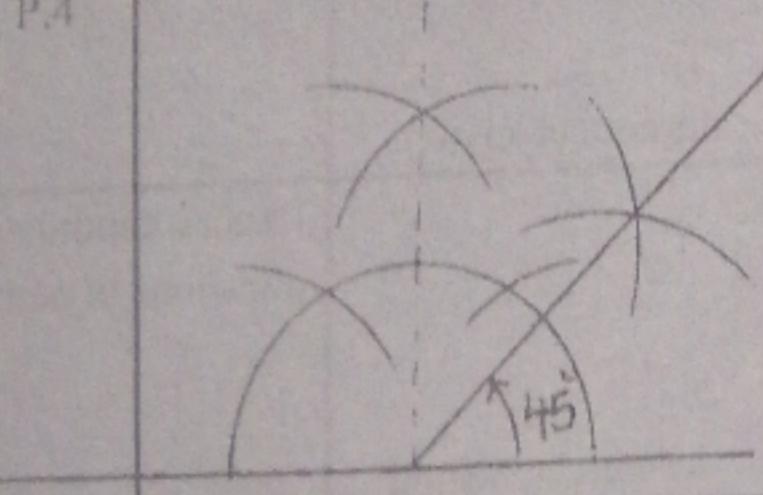


THE SIPRO PRIMARY SEVEN PRE – MOCK MATHEMATICS MARKING GUIDE – 2024

NO.	LEVEL	SOLUTION	AWARD	REASON	TECHNICAL ADVICE
1.	P.3	$30 \div 10 = 3$ <p style="text-align: center;">Alternative: $\frac{30}{10} = 3$ </p>	B ₁	For the correct answer.	Accept: $30 \div 10 = 3$ $20 \div 10 = 2$ $10 \div 10 = 1$ $30 : 10 = 3$
2.	P.5	Set R = {4, 6, 8, 9} n(R) = 4	B ₁ B ₁	For set R. For n(R).	Make a review on types of numbers and apply them.
3.	P.5	$ \begin{array}{r} 60,000 \\ + \quad 7 \\ \hline 60,007 \end{array} $	B ₁ B ₁	For the interpretation. For 60,007.	Revisit writing in words and in figures as well.
4.	P.6	$ \begin{aligned} &2a^2 + 3b^2 - 4b^2 + a^2 \\ &2a^2 + a^2 + 3b^2 - 4b^2 \\ &3a^2 - b^2 \end{aligned} $	B ₁ B ₁	For collecting like terms. For $3a^2 - b^2$.	Make use of the class materials to apply the concept of like terms.
5.	P.5	$ \begin{aligned} 2n^0 + 4n^0 &= 180^0 \\ 6n^0 &= 180^0 \\ 6n^0 &\div 6 \\ n^0 &= 30^0 \\ 1^0 &\quad 1^0 \\ n &= 30 \end{aligned} $	M ₁	For the correct method.	Make a review on complementary and supplementary angles.
6.	P.6	$ \begin{aligned} &9 - 6 \\ &9 - (6) \\ &9 + 6 \\ &3 \end{aligned} $	M ₁ A ₁	For the correct method. For the correct answer.	Help candidates to work out related questions using a number line.
7.	P.6	$ \begin{aligned} &1 - 4 \\ &\quad 7 \\ &\underline{7} - 4 = \underline{7} - 4 \\ &\quad 7 \quad 7 \quad 7 \\ &\quad - 3 \\ &\quad 7 \\ &4 \\ &\underline{3} \times \underline{28} \\ &\quad 71 \\ &= 12 \text{ blue pencils.} \end{aligned} $	B ₁	For $\frac{3}{7}$.	Revisit probability of the dice, days of the week, etc.
8.	P.6	$ \begin{aligned} 1m &= 100cm \\ 2m &= 2 \times 100cm \\ &= 200cm \end{aligned} $ $ \begin{aligned} &\underline{25}cm \\ &\underline{200}cm \\ &\quad \$1 \\ &\quad \underline{\underline{25}} \\ &\quad 200 \\ &\quad 400 \\ &= \underline{\underline{1}} \\ &\quad 8 \end{aligned} $	M ₁ A ₁	For the correct method. For $\frac{1}{8}$.	Expose candidates to related questions in percentages.

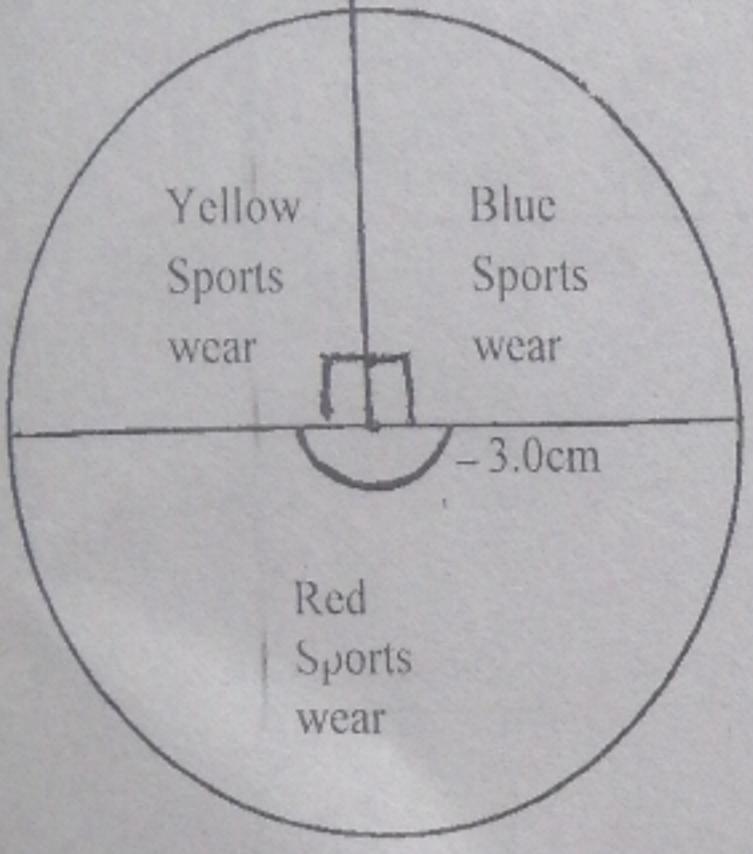
9.	P.5	 <p>3 lines of folding symmetry.</p>	B ₁	For indicating the lines.	Make a review on the lines of folding symmetry for different shapes.																		
10.	P.6	<p>Sep P = \emptyset</p> <p>Number of subsets</p> $= 2^n$ $= 2^9$ $= 1$	B ₁	For the number of lines of symmetry.	Revisit listing of subsets and proper subsets. Accept: Set P = { } Number of subsets { } One subset.																		
11.	P.4	<table style="border-collapse: collapse; width: 100px;"> <tr> <th>wks</th> <th>days</th> <th></th> </tr> <tr> <td>7</td> <td>3</td> <td style="border-left: 2px solid black; padding-left: 10px;">1 wk = 7 days</td> </tr> <tr> <td>- 2</td> <td>5</td> <td style="border-left: 2px solid black; padding-left: 10px;">$7 + 3 = 10$</td> </tr> <tr> <td></td> <td></td> <td style="border-left: 2px solid black; padding-left: 10px;">10</td> </tr> <tr> <td></td> <td></td> <td style="border-left: 2px solid black; padding-left: 10px;">$\underline{- 5}$ (1wk)</td> </tr> <tr> <td></td> <td></td> <td style="border-left: 2px solid black; padding-left: 10px;">5 (days)</td> </tr> </table>	wks	days		7	3	1 wk = 7 days	- 2	5	$7 + 3 = 10$			10			$\underline{- 5}$ (1wk)			5 (days)	M ₁	For the correct method.	Operate time, days and weeks, years and months, etc.
wks	days																						
7	3	1 wk = 7 days																					
- 2	5	$7 + 3 = 10$																					
		10																					
		$\underline{- 5}$ (1wk)																					
		5 (days)																					
12.	P.4	<p>F₁₂ = {1, 2, 3, 4, 6, 12}</p> <p>F₁₆ = {1, 2, 4, 8, 16}</p> <p>L.C.F = 1</p>	B ₁	For listing the factors.	Help candidates on how to identify the factors of a number.																		
13.	P.6	<p>$2 + 3 = \underline{\quad}$ (finite 5)</p> <p>$5 + 5 = 1 \text{ r } 0$ (finite 5)</p> <p>= 0 (finite 5)</p>	B ₁	For the correct method.	Accept if one has used a dial.																		
14.	P.7	$3 - 2(r-4) = 3$ $3 - 2r + 8 = 3$ $3 + 8 - 2r = 3$ $11 - 2r = 3$ $11 - 11 - 2r = 3 - 11$ $-2r = 8$ $\underline{-2} \quad \underline{2}$ $r = -4$	M ₁	For collecting like terms.	Expose candidates to equations with different approaches.																		
15.	P.4		B ₂	For the angle.	Revisit drawing and construction of angles.																		
16.	P.5	<p>4, 0, 5 → 540</p> <p>405 3 540 - 405 135</p>	M ₁	For the correct method.	Explain to candidates why you can not start with zero when forming the smallest number.																		
			A ₁	For 135.																			

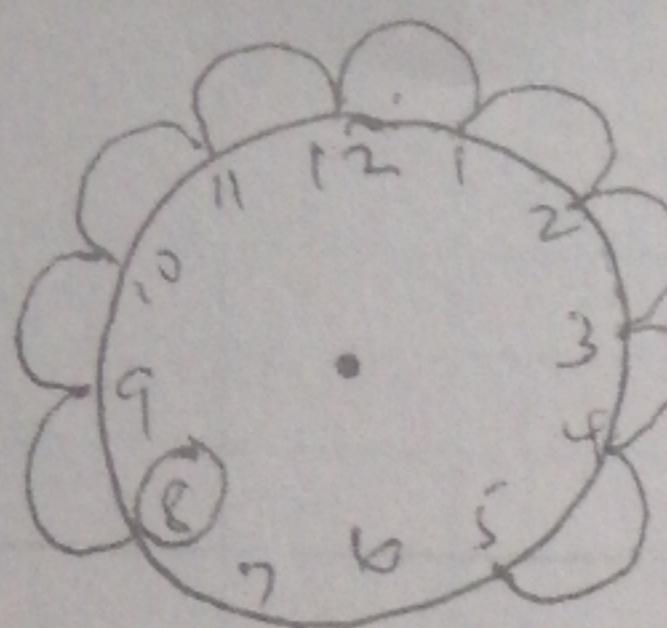
		$\begin{aligned} 8 & \quad 3 & 24 \\ & = \frac{9+16}{24} \\ & = \frac{25}{24} \\ & = 1 \frac{1}{24} \end{aligned}$	A ₁	For 1 $\frac{1}{24}$.		
18.	P.6	<p>Base area = πr^2</p> $154\text{cm}^2 = \frac{22}{7} \times r^2$ $7 \times 154 = 22r^2 \times 7$ $7 \quad \quad \quad 1$ $7 \times 154\text{cm}^2 = 22r^2$ $22 \quad \quad 22$ $1 \quad \quad 1$ $49\text{cm}^2 = r^2$ $\sqrt{2r^2} = \sqrt{49\text{cm}^2}$ $r = \sqrt{7^2\text{cm}^2}$ $\begin{array}{r} 7 \mid 49 \\ 7 \quad \\ \hline 1 \end{array}$ <p>radius = 7cm</p>	M ₁	For the correct method.	Make a review on finding volume and capacity of solid figures.	
19.	P.7	$2307 \div 10 = 230.7$ $230.7 \div 10 = 23.07$ $23.07 \div 10 = 2.307$ 2.307×10^3	M ₁	For the correct method.	Revisit related questions involving a decimal point.	
20.	P.6	<p>Last number = 1st number + (number of notes) - 1</p> <p>AF 057485 + 54 _____ AF 057539</p>	M ₁	For the correct method.	Make a review on finding the last and first consecutive numbers in a bundle of money.	
SECTION B						
21.a)	P.5	<p>Salt Sh. 1,500 x 2 _____ Sh. 3,000</p> <p>Sugar Sh. 4,000 $\div \frac{1}{2}$ Sh. 4,000 $\times \frac{1}{2}$ = Sh. 2,000</p> <p>Bill Sh. 3,000 Sh. 18,000 Sh. 2,000 + Sh. 10,000 _____ Sh. 33,000</p>	Cooking oil Sh. 6,000 \times 3 = sh. 18,000	B ₁	For each correct product.	Emphasise the use of units.
				B ₁		
				B ₁		
				B ₁	For sh 33,000.	

(b)		$ \begin{array}{r} 4 \\ \text{Sh } 50,000 \\ - \text{ Sh } 33,000 \\ \hline \text{Sh } 17,000 \end{array} $	M ₁ A ₁	For the correct method. For the correct answer.											
22.a)	P.7	$n(\Sigma) = 6n$	B ₁ B ₁ B ₁	For 22. For 2n. For 6.	Expose candidates to a variety of related questions with different approaches.										
(b)		$ \begin{aligned} 2n + 8 + 22 + 6 &= 6n \\ 2n + 36 &= 6n \\ 2n - 2n + 36 &= 6n - 2n \\ 36 &= 4n \\ 4 &\cancel{\mid} \\ 9 &= n \\ \therefore n &= 9 \end{aligned} $ $ \begin{aligned} 2n + 6 \\ (2 \times 9) + 6 \\ 18 + 6 \\ 24 \text{ pupils.} \end{aligned} $	B ₁ B ₁	For n = 9. For 24 pupils.											
23.a)	P.6	$ \begin{array}{r} 0.2 \\ 4.0 \ 1 \ 1_{\text{two}} \\ - 1 \ 1.1_{\text{two}} \\ \hline 1 \ 0 \ 0_{\text{two}} \end{array} $	B ₂	For 100 _{two} .	Make a review on operation of bases and apply the application part of it.										
(b)		$ \begin{array}{r} f \left \begin{array}{r} 4 \\ \text{nine} \\ \text{ones} \\ \hline \text{nines} \end{array} \right. \quad \left \begin{array}{r} 2 \\ \text{nine} \\ \text{ones} \\ \hline \text{fives} \end{array} \right. \\ (f \times 9) + (4 \times 1) - (4 \times 5) + (2 \times 1) \\ 9f + 4 = 20 + 2 \\ 9f + 4 = 22 \\ 9f + 4 - 4 = 22 - 4 \\ 9f = 18 \\ \frac{1}{9} \\ \frac{18}{9} \\ 2 \end{array} $	B ₁ M ₁ A ₁	For expansion. For the correct method. For the correct answer.											
24.a)	P.7	$ \begin{aligned} L \times L &= \text{area} \\ 1.2 &= 81 \text{ dc}^2 \\ \sqrt{L^2} &= \sqrt{81 \text{ dc}^2} \\ L &= 9 \end{aligned} $ <table style="margin-left: 20px;"> <tr><td>3</td><td>81</td></tr> <tr><td>3</td><td>27</td></tr> <tr><td>3</td><td>9</td></tr> <tr><td>3</td><td>3</td></tr> <tr><td>1</td><td></td></tr> </table>	3	81	3	27	3	9	3	3	1		M ₁	For the correct method.	Revisit the drawing of all solid nets.
3	81														
3	27														
3	9														
3	3														
1															

		$L = \sqrt{3^2 + 3^2} \text{dm}^2$ Length = 9dm	A ₁	For the correct answer.																
(b)		T.S.A = $6(5^2)$ $6(9\text{dm} \times 9\text{dm})$ $6(81\text{dm}^2)$ $6 \times 81\text{dm}^2$ $= 486\text{dm}^2$	M ₁	For the correct method.																
(c)		Volume = base area x length $= (L \times L) \times L$ $= (9\text{dm} \times 9\text{dm}) \times 9\text{dm}$ $= 81\text{dm}^2 \times 9\text{dm}$ $= 729\text{dm}^3$	A ₁	For the correct answer. For the correct method.																
25.a)	P.5		L ₁	For 3.6cm. Emphasise neatness and accuracy.																
			C ₁	For the circle.																
			C ₁	For arcs.																
			J ₁	For joining.																
26.a)	P.7	Scale = 6 6 picto rep 54 1 picto rep $\frac{54}{6}$ 1 picto rep 9 watches $45 \div 9 = 5$ $3 \times 9 = 27$ $4 \times 9 = 36$	B ₁	For 9.	Award B ₀ minus the working.															
			B ₁	For 27.																
			B ₁	For 36.																
		<table border="1"><thead><tr><th>Day</th><th>Pictures</th><th>No. of watches</th></tr></thead><tbody><tr><td>Monday</td><td></td><td>45</td></tr><tr><td>Tues</td><td></td><td>27</td></tr><tr><td>Wed</td><td></td><td>54</td></tr><tr><td>Thur</td><td></td><td>36</td></tr></tbody></table>	Day	Pictures	No. of watches	Monday		45	Tues		27	Wed		54	Thur		36			
Day	Pictures	No. of watches																		
Monday		45																		
Tues		27																		
Wed		54																		
Thur		36																		
(b)		2 4 2 2 7 5 4 + 3 6 ————— 1 6 2 watches.	M ₁	For the correct method.																
			A ₁	For the correct answer.																

27.a)	P.7	<table border="1"> <tr><td>2</td><td>25min</td><td>30min</td><td>40min</td></tr> <tr><td>2</td><td>25</td><td>15</td><td>20</td></tr> <tr><td>2</td><td>25</td><td>15</td><td>10</td></tr> <tr><td>3</td><td>25</td><td>15</td><td>5</td></tr> <tr><td>5</td><td>25</td><td>5</td><td>5</td></tr> <tr><td>5</td><td>5</td><td>1</td><td>1</td></tr> <tr><td></td><td>1</td><td>1</td><td>1</td></tr> </table> <p>$(2 \times 2) \times (2 \times 3) \times (5 \times 5)$ $(4 \times 6) \times 25$ 24×25 $= 600 \text{ minutes}$ $60 \text{ minutes} = 1 \text{ hour}$ $1 \text{ minute} = \frac{1}{60} \text{ hour}$ $600 \text{ min} = \left(\frac{1}{60} \times \frac{10}{60} \right) \text{ hour}$ $= 10 \text{ hours.}$</p> <p>FIRST TIME</p> <table style="margin-left: auto; margin-right: auto;"> <tr><td>5 : 45pm</td><td>17 : 45hour</td></tr> <tr><td>+ 12: 00</td><td>- 10 : 00</td></tr> <tr><td><u>17 : 45hour</u></td><td><u>7 : 45am</u></td></tr> </table>	2	25min	30min	40min	2	25	15	20	2	25	15	10	3	25	15	5	5	25	5	5	5	5	1	1		1	1	1	5 : 45pm	17 : 45hour	+ 12: 00	- 10 : 00	<u>17 : 45hour</u>	<u>7 : 45am</u>	M ₁	For prime factorization.	- Accept any candidate who has used a number line.
2	25min	30min	40min																																				
2	25	15	20																																				
2	25	15	10																																				
3	25	15	5																																				
5	25	5	5																																				
5	5	1	1																																				
	1	1	1																																				
5 : 45pm	17 : 45hour																																						
+ 12: 00	- 10 : 00																																						
<u>17 : 45hour</u>	<u>7 : 45am</u>																																						
28.a)	P.6	$\text{SI} = P \times R \times T$ $= \text{Sh } 800,000 \times \frac{5}{100} \times \frac{6}{42}$ $= \text{Sh } 2000 \times 30$ $= \text{Sh } 600,000$	M ₁	For substitution.	- Make a review on finding the principal, rates and time.																																		
			M ₁	For the correct method.																																			
(b)		$\text{Amount} = P + SI$ $= \text{Sh } 800,000 + \text{Sh } 60,000$ $= \text{Sh } 860,000$	M ₁	For the correct method.																																			
			A ₁	For the correct answer.																																			
29.a)	P.6	<p>Blue sports wear:</p> $5 \quad 18$ $\underline{25} \times 360^{\circ}$ 100 21 $= (5 \times 18)^{\circ}$ $= 90^{\circ}$ <p>Red sports wear:</p> $5 \times 360^{\circ}$ 100 $5 \times 36^{\circ}$ $= 180^{\circ}$	B ₁	For 90° .	- Emphasise accuracy and neatness.																																		
			B ₁	For 180° .																																			

		<p>Yellow sports wear: $100\% - (25\% + 50\%)$ $100\% - 75\%$ 25%</p> $\begin{array}{r} 5 \quad 18 \\ \underline{25} \times 36^{\circ} \\ 10 \\ 2 \\ 1 \\ = 90^{\circ} \end{array}$	B ₁	For 90° .								
(b)			B ₁	For representation.								
			B ₁	For the pie chart.								
30.a)	P.7	<p>Let Belinda's share be n.</p> <table border="1" style="display: inline-table; vertical-align: middle;"> <thead> <tr> <th>Anne</th> <th>Belinda</th> <th>Christine</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>$3n$</td> <td>n</td> <td>$5+n$</td> <td>65</td> </tr> </tbody> </table> $\begin{aligned} 3n + n + 5 + n &= 65 \\ 5n + 5 &= 65 \\ 5n + 5 - 5 &= 65 - 5 \\ 5n &= 60 \\ \underline{5}n &= \underline{60} \\ n &= 12 \end{aligned}$	Anne	Belinda	Christine	Total	$3n$	n	$5+n$	65		Expose candidates for solving word statements involving algebra.
Anne	Belinda	Christine	Total									
$3n$	n	$5+n$	65									
			B ₁	For the equation.								
			B ₁	For 12.								
		<table border="1" style="display: inline-table; vertical-align: middle;"> <thead> <tr> <th>Anne</th> <th>Christine</th> </tr> </thead> <tbody> <tr> <td>$3 \times n$</td> <td>$5+n$</td> </tr> <tr> <td>3×12</td> <td>$5+12$</td> </tr> <tr> <td>= 36 mangoes</td> <td>17 mangoes</td> </tr> </tbody> </table> <p>Belinda = 12 mangoes.</p>	Anne	Christine	$3 \times n$	$5+n$	3×12	$5+12$	= 36 mangoes	17 mangoes	B ₁	For 36 mangoes.
Anne	Christine											
$3 \times n$	$5+n$											
3×12	$5+12$											
= 36 mangoes	17 mangoes											
			B ₁	For 17 mangoes.								
31.a)	P.7	$\begin{array}{r} 8 \\ \underline{4} \\ 15 \\ \underline{3} \times 60 \\ \cancel{1} \\ = 45 \text{ min} \\ \begin{array}{r} 45 \\ + 35 \\ \hline 80 \text{ min} \end{array} \quad \begin{array}{r} 80 \\ - 60(1\text{h}) \\ \hline 20(\text{min}) \end{array} \\ 9 \text{ hours } 20 \text{ min} \end{array}$		- Accept if the candidate has used a number line.								
			B ₁	For 9 hours 20 minutes.								

				
		8:20 am	B ₁	For 8:20 pm.
(b)		In 1 second --- 25 metres 1 hour (3600 seconds) -- $(3600 \times 25)m$ (3600×25) metres $= 90,000$ metres	M ₁	For the correct method.
			A ₁	For the correct answer.
32.a)	P.7	$2(L + W) = \text{perimeter}$ $2(3k + 2k) = 60m$ $6k + 4k = 60m$ $10k = 60m$ <u>$10k$</u> = <u>$60m$</u> <u>10</u> = <u>6</u> $k = 6m$	M ₁	For the correct method.
(b)		Length width (3k)m (2k)m (3 x 6)m $2 \times 6m$ 18m 12m	B ₁	For 18m.
			B ₁	For 12m.
		Area = L x W $= 18m \times 12m$ $= 216m^2$.	B ₁	For 216m ² .
				- Make a review on area and perimeter of plane shapes.